

What is claimed is as follows:

1. An optical fiber cable assembly comprising:
 - an optical fiber slidably enclosed within a hollow tubing, both the fiber and the tubing having corresponding first and second ends;
 - the cable being terminated with the first ends of the tubing and the fiber constrained with respect to each other and the second ends of the tubing and the fiber constrained with respect to each other, such that fiber and the tubing are approximately the same length when at a first temperature;
 - the tubing is made of a material which contracts more than the optical fiber when the cable is exposed to temperatures below the first temperature, such that the fiber is longer than the tubing and excess fiber length is formed; and
 - wherein a fiber receiving device permits the excess fiber length to accumulate without bending in a radius smaller than a minimum bend radius.
2. The optical fiber cable of claim 1, wherein the fiber receiving device includes an intermediate portion of the tubing which permits the excess fiber length to accumulate without bending in a radius smaller than a minimum bend radius.
3. The optical fiber cable of claim 1, wherein the fiber receiving device includes a box, a first and a second intermediate end of the tubing attached to the box and the fiber passing through the box.
4. The optical fiber cable of claim 3, wherein the optical fiber forms a loop within the box.
5. The optical fiber cable of claim 2, wherein the intermediate portion of the hollow tubing defines a greater inner diameter than the remainder of the tubing.
6. The optical fiber cable of claim 1, wherein the first end of the fiber and the first end of the tubing are terminated at an optical fiber connector.

7. The optical fiber cable of claim 6, wherein both the first and second ends of the fiber and the tubing are terminated by an optical fiber connector.
8. The optical fiber cable of claim 6, wherein the second end of the fiber and the second end of the tubing are terminated at an optical signal splitter.
9. An optical fiber cable assembly comprising:
 - an optical fiber slidably enclosed within a hollow tubing, both the fiber and the tubing having corresponding first and second ends;
 - the second ends of the fiber and the tubing terminated together and constrained with respect to each other;
 - the first end of the fiber constrained beyond where the first end of the tubing is constrained;
 - wherein the cable is assembled at a first temperature and at a second lower temperature the tubing shrinks in length relative to the fiber and any excess fiber length accumulates beyond the first end of the tube.
10. The optical fiber cable assembly of claim 9, wherein the first end of the tubing is constrained at an outer wall of a housing of a module and the first end of the fiber is constrained within an interior of the module at one end of an optical component.
11. The optical fiber cable assembly of claim 10, wherein the optical component within the module is a splitter.
12. The optical fiber cable assembly of claim 11, wherein a plurality of optical fibers extend from the splitter.
13. The optical fiber cable assembly of claim 9, wherein the second ends of the fiber and the tubing are constrained at an optical fiber connector.

14. The optical fiber cable assembly of claim 10, wherein the module further includes an input optical fiber cable, the input optical fiber with an optical fiber slidably received within a hollow tubing, the fiber and the tubing having corresponding first and second ends, the first ends of the tubing and the fiber constrained with respect to each other, the second end of the input cable tubing constrained at a front of the module and the second end of the input cable fiber constrained within the interior of the module at a second end of the optical component, the fiber of the input cable forming a loop within the interior which accumulates any excess length of fiber formed by a contraction of the tubing of the input cable.

15. The optical fiber cable assembly of claim 14, wherein the contraction of the tubing of the input cable is due to a decrease in temperature.

16. An optical fiber cable assembly comprising:

- an optical fiber slidably enclosed within a hollow tube, both the fiber and the tube having corresponding first and second ends;

- the first ends of the fiber and the tube terminated and constrained with respect to each other;

- the second end of the tube constrained at a cable loop box with the second end of the fiber extending into an interior of the cable loop box;

- the second end of the fiber constrained at an optical device mounted within the fiber loop box;

- the fiber formed into a loop within the fiber loop box between the second end of the tubing and the second end of the fiber;

- wherein the cable is assembled at a first temperature and at a second lower temperature the tubing shrinks in length relative to the fiber to form an excess length of fiber and any excess fiber length accumulates in the loop of fiber within the fiber loop box.

17. The optical fiber cable assembly of claim 16, wherein the optical device is a splitter.

18. The optical fiber cable assembly of claim 16, wherein the first ends of the fiber and the tube are terminated at a connector.

19. The optical fiber cable assembly of claim 16, further comprising a second fiber extending from the optical device and out of the box into a second hollow tube, the second fiber and the second tube having corresponding first and second ends, the first end of the fiber constrained at the optical device, the first end of the tube constrained at a wall of the box, the second ends of the second fiber and the second tube terminated and constrained with respect to each other, the second fiber forming a loop within the box between the first end of the fiber and the first end of the tube for receiving excess fiber length formed by the contraction of the tube.

20. The optical fiber cable assembly of claim 19, wherein the second ends of the second fiber and the second tube are terminated at an optical fiber connector.

21. The optical fiber cable assembly of claim 19, wherein the optical device is a splitter and a plurality of second fibers extend from the splitter out of the box into a plurality of second tubes.

22. A method of assembling an optical fiber cable comprising:

providing an optical fiber and a hollow tubing, the tubing is made of a material which contracts more than the optical fiber when the cable is exposed to temperatures below the first temperature both the fiber and the tubing having first and second ends;

sliding the fiber within the tubing;

providing a fiber receiving device between the first ends of the fiber and the tubing and the second ends of the fiber and the tubing;

terminating the cable with the first ends of the tubing and the fiber constrained with respect to each other and the second ends of the tubing and the fiber

constrained with respect to each other, such that fiber and the tubing are approximately the same length when at a first temperature;

 exposing the cable to a second temperature lower than the first temperature and forming excess fiber length as the tubing contracts more than the fiber;

 accumulating the excess fiber within the fiber receiving device without bending in a radius smaller than a minimum bend radius.

23. A method of assembling a fiber optic splitter module comprising:

 providing a splitter with at least one optical fiber extending from opposing ends of the splitter, each of the optical fibers having a first end constrained at the splitter and an opposing second end;

 placing the splitter within an interior of a housing;

 forming each optical fiber into a loop within the housing and extending the second end outside of the housing;

 sliding a hollow tube over the second end of each optical fiber such that a first end of each tube is constrained at an outer wall of the housing and a second end of each tube is adjacent the second end of the fiber within the tube;

 terminating constraining with respect to each other the second ends of the tubes and the fibers within the tube;

 accumulating any excess length of fiber creating by contraction of the tube within the loop inside the housing.